

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 10:06:57 ON 17 APR 2003

=> fil .bec

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,  
ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 10:07:17 ON 17 APR 2003  
ALL COPYRIGHTS AND RESTRICTIONS APPLY. SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s bacillus thuringiensis

FILE 'MEDLINE'

42670 BACILLUS

2835 THURINGIENSIS

L1 2744 BACILLUS THURINGIENSIS

(BACILLUS (W) THURINGIENSIS)

FILE 'SCISEARCH'

41909 BACILLUS

5436 THURINGIENSIS

L2 5133 BACILLUS THURINGIENSIS

(BACILLUS (W) THURINGIENSIS)

FILE 'LIFESCI'

22712 "BACILLUS"

3831 "THURINGIENSIS"

L3 3765 BACILLUS THURINGIENSIS

("BACILLUS" (W) "THURINGIENSIS")

FILE 'BIOTECHDS'

15194 BACILLUS

2125 THURINGIENSIS

L4 2116 BACILLUS THURINGIENSIS

(BACILLUS (W) THURINGIENSIS)

FILE 'BIOSIS'

61920 BACILLUS

8478 THURINGIENSIS

L5 8407 BACILLUS THURINGIENSIS

(BACILLUS (W) THURINGIENSIS)

FILE 'EMBASE'

31370 "BACILLUS"

2153 "THURINGIENSIS"

L6 2104 BACILLUS THURINGIENSIS

("BACILLUS" (W) "THURINGIENSIS")

FILE 'HCAPLUS'

73495 BACILLUS

5766 THURINGIENSIS

L7 5651 BACILLUS THURINGIENSIS

(BACILLUS (W) THURINGIENSIS)

FILE 'NTIS'

1604 BACILLUS

183 THURINGIENSIS

L8 168 BACILLUS THURINGIENSIS

(BACILLUS (W) THURINGIENSIS)

FILE 'ESBIOBASE'

11855 BACILLUS  
1621 THURINGIENSIS  
L9 1586 BACILLUS THURINGIENSIS  
(BACILLUS (W) THURINGIENSIS)

FILE 'BIOTECHNO'

18734 BACILLUS  
2115 THURINGIENSIS  
L10 2083 BACILLUS THURINGIENSIS  
(BACILLUS (W) THURINGIENSIS)

FILE 'WPIDS'

10449 BACILLUS  
940 THURINGIENSIS  
L11 850 BACILLUS THURINGIENSIS  
(BACILLUS (W) THURINGIENSIS)

TOTAL FOR ALL FILES

L12 34607 BACILLUS THURINGIENSIS

=> s (truncat? or digest? or fragment?) (4a) (endotoxin# or toxin# or crystal protein#)

FILE 'MEDLINE'

156239 TRUNCAT?  
100498 DIGEST?  
240901 FRAGMENT?  
26790 ENDOTOXIN#  
68859 TOXIN#  
34560 CRYSTAL  
1482512 PROTEIN#  
1133 CRYSTAL PROTEIN#  
(CRYSTAL (W) PROTEIN#)  
L13 1235 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR CRYSTAL PROTEIN#)

FILE 'SCISEARCH'

36847 TRUNCAT?  
81255 DIGEST?  
195324 FRAGMENT?  
26507 ENDOTOXIN#  
60934 TOXIN#  
339117 CRYSTAL  
1174469 PROTEIN#  
983 CRYSTAL PROTEIN#  
(CRYSTAL (W) PROTEIN#)  
L14 978 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR CRYSTAL PROTEIN#)

FILE 'LIFESCI'

13615 TRUNCAT?  
32771 DIGEST?  
81109 FRAGMENT?  
6749 ENDOTOXIN#  
30290 TOXIN#  
13034 "CRYSTAL"  
453579 PROTEIN#  
437 CRYSTAL PROTEIN#  
("CRYSTAL" (W) PROTEIN#)  
L15 677 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR CRYSTAL PROTEIN#)

FILE 'BIOTECHDS'

2300 TRUNCAT?

14359 DIGEST?  
 37298 FRAGMENT?  
 938 ENDOTOXIN#  
 4556 TOXIN#  
 2802 CRYSTAL  
 104599 PROTEIN#  
 1523 CRYSTAL PROTEIN#  
 (CRYSTAL(W) PROTEIN#)  
 L16 384 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

FILE 'BIOSIS'

31267 TRUNCAT?  
 528112 DIGEST?  
 208364 FRAGMENT?  
 24201 ENDOTOXIN#  
 141680 TOXIN#  
 41559 CRYSTAL  
 1484988 PROTEIN#  
 770 CRYSTAL PROTEIN#  
 (CRYSTAL(W) PROTEIN#)  
 L17 1582 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

FILE 'EMBASE'

21836 TRUNCAT?  
 137895 DIGEST?  
 153998 FRAGMENT?  
 22867 ENDOTOXIN#  
 60507 TOXIN#  
 42682 "CRYSTAL"  
 1159240 PROTEIN#  
 297 CRYSTAL PROTEIN#  
 ("CRYSTAL" (W) PROTEIN#)  
 L18 995 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

FILE 'HCAPLUS'

36214 TRUNCAT?  
 206466 DIGEST?  
 333770 FRAGMENT?  
 25101 ENDOTOXIN#  
 99267 TOXIN#  
 1019344 CRYSTAL  
 1734655 PROTEIN#  
 1347 CRYSTAL PROTEIN#  
 (CRYSTAL(W) PROTEIN#)  
 L19 1847 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

FILE 'NTIS'

3359 TRUNCAT?  
 5873 DIGEST?  
 13037 FRAGMENT?  
 721 ENDOTOXIN#  
 3269 TOXIN#  
 41690 CRYSTAL  
 16838 PROTEIN#  
 7 CRYSTAL PROTEIN#  
 (CRYSTAL(W) PROTEIN#)  
 L20 26 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

FILE 'ESBIOBASE'

15590 TRUNCAT?  
 37191 DIGEST?  
 65046 FRAGMENT?  
 5445 ENDOTOXIN#  
 24131 TOXIN#  
 21648 CRYSTAL  
 516142 PROTEIN#  
 200 CRYSTAL PROTEIN#  
 (CRYSTAL(W) PROTEIN#)  
 L21 419 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

FILE 'BIOTECHNO'

17164 TRUNCAT?  
 38864 DIGEST?  
 98648 FRAGMENT?  
 5261 ENDOTOXIN#  
 23338 TOXIN#  
 13963 CRYSTAL  
 594891 PROTEIN#  
 295 CRYSTAL PROTEIN#  
 (CRYSTAL(W) PROTEIN#)  
 L22 618 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

FILE 'WPIDS'

24628 TRUNCAT?  
 19822 DIGEST?  
 53094 FRAGMENT?  
 2101 ENDOTOXIN#  
 6431 TOXIN#  
 233215 CRYSTAL  
 108865 PROTEIN#  
 175 CRYSTAL PROTEIN#  
 (CRYSTAL(W) PROTEIN#)  
 L23 315 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

TOTAL FOR ALL FILES

L24 9076 (TRUNCAT? OR DIGEST? OR FRAGMENT?) (4A) (ENDOTOXIN# OR TOXIN# OR  
 CRYSTAL PROTEIN#)

=> s 112 and 124

FILE 'MEDLINE'

L25 54 L1 AND L13

FILE 'SCISEARCH'

L26 69 L2 AND L14

FILE 'LIFESCI'

L27 78 L3 AND L15

FILE 'BIOTECHDS'

L28 112 L4 AND L16

FILE 'BIOSIS'

L29 102 L5 AND L17

FILE 'EMBASE'

L30 45 L6 AND L18

FILE 'HCAPLUS'

L31 176 L7 AND L19

FILE 'NTIS'  
L32 0 L8 AND L20

FILE 'ESBIOBASE'  
L33 29 L9 AND L21

FILE 'BIOTECHNO'  
L34 47 L10 AND L22

FILE 'WPIDS'  
L35 33 L11 AND L23

TOTAL FOR ALL FILES  
L36 745 L12 AND L24

=> s l12(15a)l24  
FILE 'MEDLINE'  
L37 23 L1 (15A)L13

FILE 'SCISEARCH'  
L38 32 L2 (15A)L14

FILE 'LIFESCI'  
L39 35 L3 (15A)L15

FILE 'BIOTECHDS'  
L40 63 L4 (15A)L16

FILE 'BIOSIS'  
L41 40 L5 (15A)L17

FILE 'EMBASE'  
L42 17 L6 (15A)L18

FILE 'HCAPLUS'  
L43 87 L7 (15A)L19

FILE 'NTIS'  
L44 0 L8 (15A)L20

FILE 'ESBIOBASE'  
L45 10 L9 (15A)L21

FILE 'BIOTECHNO'  
L46 20 L10(15A)L22

FILE 'WPIDS'  
L47 18 L11(15A)L23

TOTAL FOR ALL FILES  
L48 345 L12(15A) L24

=> s cryvi? or cry6? or 86a1 or ps86a1  
FILE 'MEDLINE'

0 CRYVI?  
2 CRY6?  
0 86A1  
0 PS86A1  
L49 2 CRYVI? OR CRY6? OR 86A1 OR PS86A1

FILE 'SCISEARCH'  
0 CRYVI?  
3 CRY6?  
1 86A1

0 PS86A1  
 L50 4 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'LIFESCI'  
 0 CRYVI?  
 3 CRY6?  
 1 86A1  
 3 PS86A1  
 L51 7 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'BIOTECHDS'  
 2 CRYVI?  
 2 CRY6?  
 4 86A1  
 6 PS86A1  
 L52 12 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'BIOSIS'  
 0 CRYVI?  
 8 CRY6?  
 5 86A1  
 0 PS86A1  
 L53 13 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'EMBASE'  
 0 CRYVI?  
 1 CRY6?  
 0 86A1  
 0 PS86A1  
 L54 1 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'HCAPLUS'  
 5 CRYVI?  
 11 CRY6?  
 4 86A1  
 3 PS86A1  
 L55 21 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'NTIS'  
 0 CRYVI?  
 0 CRY6?  
 0 86A1  
 0 PS86A1  
 L56 0 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'ESBIOBASE'  
 0 CRYVI?  
 0 CRY6?  
 0 86A1  
 0 PS86A1  
 L57 0 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'BIOTECHNO'  
 0 CRYVI?  
 1 CRY6?  
 0 86A1  
 0 PS86A1  
 L58 1 CRYVI? OR CRY6? OR 86A1 OR PS86A1  
  
 FILE 'WPIDS'  
 1 CRYVI?  
 5 CRY6?  
 3 86A1  
 6 PS86A1

L59 13 CRYVI? OR CRY6? OR 86A1 OR PS86A1

TOTAL FOR ALL FILES

L60 74 CRYVI? OR CRY6? OR 86A1 OR PS86A1

=> s (148 or 160) not 1999-2003/py

FILE 'MEDLINE'

2100383 1999-2003/PY

L61 22 (L37 OR L49) NOT 1999-2003/PY

FILE 'SCISEARCH'

4092740 1999-2003/PY

L62 28 (L38 OR L50) NOT 1999-2003/PY

FILE 'LIFESCI'

420770 1999-2003/PY

L63 33 (L39 OR L51) NOT 1999-2003/PY

FILE 'BIOTECHDS'

70340 1999-2003/PY

L64 64 (L40 OR L52) NOT 1999-2003/PY

FILE 'BIOSIS'

2262882 1999-2003/PY

L65 37 (L41 OR L53) NOT 1999-2003/PY

FILE 'EMBASE'

1846344 1999-2003/PY

L66 14 (L42 OR L54) NOT 1999-2003/PY

FILE 'HCAPLUS'

3953396 1999-2003/PY

L67 62 (L43 OR L55) NOT 1999-2003/PY

FILE 'NTIS'

73806 1999-2003/PY

L68 0 (L44 OR L56) NOT 1999-2003/PY

FILE 'ESBIOBASE'

1191586 1999-2003/PY

L69 5 (L45 OR L57) NOT 1999-2003/PY

FILE 'BIOTECHNO'

494542 1999-2003/PY

L70 15 (L46 OR L58) NOT 1999-2003/PY

FILE 'WPIDS'

3477481 1999-2003/PY

L71 11 (L47 OR L59) NOT 1999-2003/PY

TOTAL FOR ALL FILES

L72 291 (L48 OR L60) NOT 1999-2003/PY

=> dup rem 172

PROCESSING COMPLETED FOR L72

L73 154 DUP REM L72 (137 DUPLICATES REMOVED)

=> d tot

L73 ANSWER 1 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

TI **Bacillus thuringiensis alpha-endotoxin fragments.**

SO Official Gazette of the United States Patent and Trademark Office Patents, (Jan. 20, 1998) Vol. 1206, No. 3, pp. 2149.

ISSN: 0098-1133.

AU Adang, M. J.

AN 2002:101642 BIOSIS

L73 ANSWER 2 OF 154 WPIDS (C) 2003 THOMSON DERWENT  
TI Chimeric gene containing **Bacillus thuringiensis** DNA -  
encoding insecticidal **fragment of crystal**  
**protein.**

PI US 5767372 A 19980616 (199831)\* 112p A01H004-00

IN DE GREVE, H M J; HOFTE, H F P; LEEMANS, J J A; SALGADO, M B L F; VAECK, M  
A; VAN MONTAGU, M C E; ZABEAU, M F O

L73 ANSWER 3 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 1  
TI Effects of crystalline forms on the deformation behaviour of nylon-6  
SO POLYMER, (SEP 1998) Vol. 39, No. 19, pp. 4593-4598.  
Publisher: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON,  
OXFORD OX5 1GB, OXON, ENGLAND.  
ISSN: 0032-3861.

AU Ito M (Reprint); Mizuochi K; Kanamoto T

AN 1998:548552 SCISEARCH

L73 ANSWER 4 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Muscarinic acetylcholine receptors induce h-cyr61 expression.  
SO Society for Neuroscience Abstracts, (1998) Vol. 24, No. 1-2, pp. 1246.  
Meeting Info.: 28th Annual Meeting of the Society for Neuroscience, Part 2  
Los Angeles, California, USA November 7-12, 1998  
ISSN: 0190-5295.

AU Albrecht, D.; V D Kammer, H.; Mayhaus, M.; Klaudiny, J.; Langer, U.;  
Schweizer, M.; Nitsch, R. M.

AN 1999:57421 BIOSIS

L73 ANSWER 5 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 2  
TI Short communication: A fusion gene coding for two different  
delta-endotoxins of *Bacillus thuringiensis* toxic to *Plutella xylostella*  
and useful for resistance management  
SO WORLD JOURNAL OF MICROBIOLOGY & BIOTECHNOLOGY, (JUL 1998) Vol. 14, No. 4,  
pp. 599-601.  
Publisher: KLUWER ACADEMIC PUBL, SPUIBOULEVARD 50, PO BOX 17, 3300 AA  
DORDRECHT, NETHERLANDS.  
ISSN: 0959-3993.

AU Mandaokar A; Chakrabarti S K; Rao N G V; Kumar P A; Sharma R P (Reprint)

AN 1998:815327 SCISEARCH

L73 ANSWER 6 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI Proteolysis of *Bacillus thuringiensis* subspecies *kurstaki* endotoxin with  
midgut proteases of some important lepidopterous species.  
SO Indian Journal of Experimental Biology, (June, 1998) Vol. 36, No. 6, pp.  
593-598.  
ISSN: 0019-5189.

AU Meenakshisundaram, K. S.; Gujar, G. T. (1)

AN 1998:317143 BIOSIS

L73 ANSWER 7 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
TI At the cutting edge: How many insulin-like growth factor binding proteins.  
SO Molecular and Cellular Endocrinology, (April 30, 1998) Vol. 139, No. 1-2,  
pp. 1-6.  
ISSN: 0303-7207.

AU Collet, Chris (1); Candy, Judith

AN 1998:360387 BIOSIS

L73 ANSWER 8 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI **Bacillus thuringiensis** alpha -endotoxin  
**fragments**  
SO (19980120) . US Patent 5710020; US Class: 435/69.1; 435/251.31;



435/252.33; 536/23.71..

AU Adang, M.J.  
AN 1999:38933 LIFESCI

L73 ANSWER 9 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI Transformation vectors allowing expression of foreign polypeptide  
endotoxins from *Bacillus thuringiensis* in plants  
SO (19980616) . US Patent 5767372; US Class: 800/205; 536/23.71; 435/320.1;  
435/419..  
AU De Greve, H.M.J.; Salgado, M.B.L.F.; Van Montagu, M.C.E.; Vaeck, M.A.;  
Zabeau, M.F.O.; Leemans, J.J.A.; Hofte, H.F.P.  
AN 1999:38928 LIFESCI

L73 ANSWER 10 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI Transformation vectors allowing expression of foreign polypeptide  
endotoxins in plants  
SO (19981201) . US Patent: 5843898; US CLASS: 514/12; 435/69.1..  
AU De Greve, H.A.O.; Salgado, M.E.E.E.; Van Montagu, M.H.R.; Vaeck, M.L.;  
Zabeau, M.L.S.; Leemans, J.O.U.; Hofte, H.R.A.  
AN 2000:42128 LIFESCI

L73 ANSWER 11 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Detecting viable *Cryptosporidium* oocysts in a sample;  
monoclonal antibody production by hybridoma culture for use in  
*Cryptosporidium* oocyst determination in the environment  
AU Vesey G; Williams K; Veal D; Champion A; Pererva N  
AN 1997-05695 BIOTECHDS  
PI WO 9708204 6 Mar 1997

L73 ANSWER 12 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Transgenic cotton plants toxic to *Manduca sexta* or *Heliothis zea*;  
transgenic plant construction with insect resistance by expression of  
**truncated crystal protein** gene from  
***Bacillus thuringiensis***  
AU Barton K A; Umbeck P F  
AN 1997-05599 BIOTECHDS  
PI US 5608142 4 Mar 1997

L73 ANSWER 13 OF 154 WPIDS (C) 2003 THOMSON DERWENT  
TI Transgenic cotton plants toxic to *Manduca sexta* or *Heliothis zea* - contg.  
DNA encoding **truncated *Bacillus thuringiensis***  
**delta-endotoxin** protein.  
PI US 5608142 A 19970304 (199715)\* EN 20p A01H004-00  
IN BARTON, K A; UMBECK, P F

L73 ANSWER 14 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 3  
TI Engineering genetic resistance against insects in Japanese persimmon using  
the cryIA(c) gene of *Bacillus thuringiensis*  
SO JOURNAL OF THE AMERICAN SOCIETY FOR HORTICULTURAL SCIENCE, (NOV 1997) Vol.  
122, No. 6, pp. 764-771.  
Publisher: AMER SOC HORTICULTURAL SCIENCE, 701 NORTH SAINT ASAPH STREET,  
ALEXANDRIA, VA 22314-1998.  
ISSN: 0003-1062.  
AU Tao R (Reprint); Dandekar A M; Uratsu S L; Vail P V; Tebbets J S  
AN 97:842446 SCISEARCH

L73 ANSWER 15 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Engineering genetic resistance against insects in Japanese persimmon  
using the cryIA(c) gene of *Bacillus thuringiensis*;  
insect resistance trait introduction into *Diospyros kaki* transgenic  
plant  
SO J.Am.Soc.Hortic.Sci.; (1997) 122, 6, 764-71  
CODEN: JOSHB5 ISSN: 0003-1062  
AU Tao R; Dandekar A M; Uratsu S L; Vail P V; Tebbets J S

AN 1998-00607 BIOTECHDS

L73 ANSWER 16 OF 154 HCAPLUS COPYRIGHT 2003 ACS

TI A *Bacillus thuringiensis* .delta.-endotoxin induces programmed cell death in mosquito larvae

SO Cell Death and Differentiation (1997), 4(7), 560-569

CODEN: CDDIEK; ISSN: 1350-9047

AU Smouse, David; Nishiura, James

AN 1997:804327 HCAPLUS

DN 128:58492

L73 ANSWER 17 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 4

TI Enhanced resistance to two stem borers in an aromatic rice containing a synthetic cryIA(b) gene

SO MOLECULAR BREEDING, (12 SEP 1997) Vol. 3, No. 5, pp. 401-414.

Publisher: KLUWER ACADEMIC PUBL, SPUIBOULEVARD 50, PO BOX 17, 3300 AA DORDRECHT, NETHERLANDS.

ISSN: 1380-3743.

AU Ghareyazie B; Alinia F; Menguito C A; Rubia L G; dePalma J M; Liwanag E A; Cohen M B; Khush G S; Bennett J (Reprint)

AN 97:787044 SCISEARCH

L73 ANSWER 18 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 5

TI Methylation modification of toxin gene of *Bacillus thuringiensis* in wheat.

SO Acta Genetica Sinica, (1997) Vol. 24, No. 3, pp. 255-262.

ISSN: 0379-4172.

AU Guo, Liang; Wen, Yuxiang (1); Liang, Yumei; Zhou, Wenjuan; Hu, Han; Su, Hong; Wei, Rongxuan

AN 1998:6147 BIOSIS

L73 ANSWER 19 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 6

TI The cryic gene from *Bacillus thuringiensis* provides protection against *Spodoptera littoralis* in young transgenic plants

SO PLANT SCIENCE, (12 SEP 1997) Vol. 127, No. 2, pp. 179-190.

Publisher: ELSEVIER SCI IRELAND LTD, CUSTOMER RELATIONS MANAGER, BAY 15, SHANNON INDUSTRIAL ESTATE CO, CLARE, IRELAND.

ISSN: 0168-9452.

AU Mazier M; Chaufaux J; Sanchis V; Lereclus D; Giband M; Tourneur J (Reprint)

AN 97:624955 SCISEARCH

L73 ANSWER 20 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

TI The cryic gene from *Bacillus thuringiensis* provides protection against *Spodoptera littoralis* in young transgenic plants;

crop improvement by crystal protein gene expression in tobacco transgenic plant

SO Plant Sci.; (1997) 127, 2, 179-90

CODEN: 7615B ISSN: 0168-9452

AU Mazier M; Chaufaux J; Sanchis V; Lereclus D; Giband M; \*Tourneur J

AN 1997-12269 BIOTECHDS

L73 ANSWER 21 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

TI Phage display of *Bacillus thuringiensis* CryIA(a) insecticidal toxin; crystal protein fragment gene cloning and expression in *Escherichia coli*, for use as an insecticide

SO FEBS Lett.; (1997) 411, 1, 27-31

CODEN: FEBLAL ISSN: 0014-5793

AU Marzari R; Edomi P; Bhatnagar R K; Ahmad S; Selvapandiyar A; Bradbury A

AN 1997-10429 BIOTECHDS

L73 ANSWER 22 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

TI Mutant *Bacillus* strains producing factor;

*Bacillus thuringiensis* crystal protein synergist production by B.

thuringiensis mutagenesis and mutant fermentation  
AU Outtrup H; Starnes R L; Lidster W D; Manker D; MacIntosh S C  
AN 1997-02181 BIOTECHDS  
PI WO 9638539 5 Dec 1996

L73 ANSWER 23 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 7  
TI CONSTRUCTION OF POLYHEDRIN-POSITIVE RECOMBINANT VIRUS WITH EXPRESSION OF  
**TRUNCATED DELTA-ENDOTOXIN FROM BACILLUS-**  
**THURINGIENSIS** IN INSECT-CELL  
SO CHINESE SCIENCE BULLETIN, (APR 1996) Vol. 41, No. 7, pp. 597-603.  
ISSN: 1001-6538.  
AU WANG F S (Reprint); HUANG Y X; OI Y P; LIU Z Y; YANG Y Z  
AN 96:359713 SCISEARCH

L73 ANSWER 24 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Poplar (*Populus nigra* L.) plants transformed with a *Bacillus*  
*thuringiensis* toxin gene: insecticidal activity and genomic analysis;  
Agrobacterium tumefaciens-mediated poplar leaf culture transformation  
with crystal protein gene and transgenic plant propagation for insect  
resistance  
SO Transgenic Res.; (1996) 5, 5, 289-301  
CODEN: 8915P  
AU Wang G; Castiglione S; Chen Y; Li L; Han Y; Tian Y; Gabriel D W; Han Y;  
Mang K; \*Sala F  
AN 1996-13554 BIOTECHDS

L73 ANSWER 25 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Influence of the 20 kDa protein from *Bacillus thuringiensis* ssp.  
israelensis on the rate of production of truncated Cry1C proteins;  
truncated recombinant crystal protein production, for application as  
an insecticide  
SO FEMS Microbiol.Lett.; (1996) 141, 2-3, 261-64  
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L73 ANSWER 26 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
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chicken *nov* gene  
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CODEN: GENED6; ISSN: 0378-1119  
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DN 125:78065

L73 ANSWER 27 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
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epithelial cells of *Spodoptera frugiperda* (Lepidoptera: Noctuidae)  
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CODEN: JIVPAZ; ISSN: 0022-2011  
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DN 126:43937

L73 ANSWER 28 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
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gene from *Bacillus thuringiensis* provides effective insect pest control;  
rice transgenic plant construction with insect resistance by plasmid  
pSBH1 expression, following particle bombardment of immature embryo  
scutellum  
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CODEN: BTCHDA ISSN: 0733-222X  
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L73 ANSWER 29 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 8  
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SYNTHETIC BACILLUS-THURINGIENSIS CRYLAC GENE  
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PARROTT W A  
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L73 ANSWER 30 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
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**Bacillus thuringiensis** var. *kurstaki* CryIA(b)  

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resistance (conference abstract)  
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L73 ANSWER 31 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 9  
TI EXPRESSION OF BACILLUS-THURINGIENSIS (BT) INSECTICIDAL CRYSTAL PROTEIN  
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ISSN: 0006-8063.  
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L73 ANSWER 32 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
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thuringiensis toxin CryIC  
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CODEN: MGGEAE; ISSN: 0026-8925  
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J.; Koncz, C.; Zilberstein, A.  
AN 1997:4460 HCAPLUS  
DN 126:55669

L73 ANSWER 33 OF 154 LIFESCI COPYRIGHT 2003 CSA  
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from Bacillus thuringiensis in plants  
SO (1996) . US Patent 5545565; US Cl. 435/320.1 435/69.1 435/172.3 435/240.4  
514/12.  
AN 97:95363 LIFESCI

L73 ANSWER 34 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI Toxin active against lepidopteran insects  
SO (19961126) . US Patent 5578702; US Cl. 530/350 435/69.1 435/240.4  
536/23.71 800/205.  
AN 1998:21912 LIFESCI

L73 ANSWER 35 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
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fragment;  
recombinant crystal protein production by vector expression in  
microorganism and transgenic plant, for application as a biological  
control agent and as an insecticide  
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L73 ANSWER 36 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
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crystal protein overproduction by integration via homologous  
recombination and marker rescue, for use in biological control agent  
strain improvement  
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L73 ANSWER 37 OF 154 MEDLINE DUPLICATE 10  
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recombinant *Bacillus thuringiensis* delta-endotoxins].  
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L73 ANSWER 38 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
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scarabaeid beetles  
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DN 123:104083

L73 ANSWER 39 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
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*Bacillus thuringiensis* crystal protein gene transfer by  
microprojectile particle bombardment for insect resistance (conference  
paper)  
SO Euphytica; (1995) 85, 1-3, 119-23  
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L73 ANSWER 40 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Interaction of the insecticidal crystal protein CryIA from *Bacillus*  
*thuringiensis* with amino acid transport into brush border membranes from  
*Bombyx mori* larval midgut  
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CODEN: JIVPAZ; ISSN: 0022-2011  
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Giordana, Barbara  
AN 1995:460760 HCAPLUS  
DN 122:261534

L73 ANSWER 41 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Cloning and characterization of a *Bacillus thuringiensis* homolog of the  
spoIIID gene from *Bacillus subtilis*;  
crystal protein promoter gene cloning and characterization, for  
application as an insecticide  
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CODEN: GENED6 ISSN: 0378-1119

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L73 ANSWER 42 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Construction of RNA probe vector of *Bacillus thuringiensis* CryI genes  
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CODEN: HNDXEK; ISSN: 1000-2421  
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DN 123:161932

L73 ANSWER 43 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI *Bacillus thuringiensis* isolates for controlling *Acarides*  
SO (1995) . US Patent 5424410; US Cl. 536/23.71 424/93.4 424/93.46 424/93.461  
435/172.3 435/242 435/252.3 435/252.5 435/252.8 435/320.1 435/832 536/22.1  
536/23.1 536/23.2 536/23.7.  
AN 96:106712 LIFESCI

L73 ANSWER 44 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI *Bacillus thuringiensis* for controlling pests in the family Aphididae  
SO (1995) . US Patent 5468636; US Cl. 435/252.3 424/93.461 435/252.31  
435/252.33 536/23.71.  
AN 97:36993 LIFESCI

L73 ANSWER 45 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Development of combinatorial genetic constructions containing truncated  
versions of cryIA(B) and cryIB genes from *Bacillus thuringiensis* for  
further production of autopesticide cabbage plants;  
*Agrobacterium tumefaciens*-mediated ***Bacillus***  
***thuringiensis* truncated crystal**  
**protein** gene transfer for transgenic plant construction and  
insect resistance (conference paper)  
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CODEN: 9999M  
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L73 ANSWER 46 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
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*Bacillus thuringiensis* crystal protein expression in transgenic plant  
cell for application in wireworm disease-resistance  
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AN 1995-00531 BIOTECHDS  
PI WO 9423036 13 Oct 1994

L73 ANSWER 47 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 12  
TI REMOVAL OF ADSORBED **TOXIN FRAGMENTS** THAT MODIFY  
**BACILLUS-THURINGIENSIS** CRYIC DELTA-ENDOTOXIN IODINATION  
AND BINDING BY SODIUM DODECYL-SULFATE TREATMENT AND RENATURATION  
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ISSN: 0099-2240.  
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AN 94:484416 SCISEARCH

L73 ANSWER 48 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Removal of adsorbed **toxin fragments** that modify  
***Bacillus thuringiensis*** CryIC delta-endotoxin iodination  
and binding by sodium dodecyl sulfate treatment and renaturation;  
crystal protein purification and insecticide activity  
SO Appl.Environ.Microbiol.; (1994) 60, 8, 2905-10

CODEN: AEMIDF  
AU Luo K; \*Adang M J  
AN 1994-11117 BIOTECHDS

L73 ANSWER 49 OF 154 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 13  
TI Insect-resistant rice generated by introduction of a modified delta  
-endotoxin gene of Bacillus thuringiensis  
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ISSN: 0958-3157.  
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AN 96:89137 LIFESCI

L73 ANSWER 50 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Resistance to codling moth: expression of synthetic cryIA(c) genes in  
transgenic walnut embryos;  
transgenic plant construction via Bacillus thuringiensis crystal  
protein cryIA(c) artificial gene expression, potential Cydia pomonella  
insect resistance (conference abstract)  
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CODEN: HJHSAR  
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L73 ANSWER 51 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
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Bacillus thuringiensis was retained after the coding region of the gene  
was truncated and expressed in Escherichia coli  
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CODEN: NISZAQ; ISSN: 0037-2455  
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Hisanori; Zheng, Zhenwei; Murai, Norimoto  
AN 1994:648605 HCAPLUS  
DN 121:248605

L73 ANSWER 52 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 14  
TI LOW-LEVELS OF EXPRESSION OF WILD-TYPE BACILLUS-THURINGIENSIS VAR KURSTAKI  
CRYIA(C) SEQUENCES IN TRANSGENIC WALNUT SOMATIC EMBRYOS  
SO PLANT SCIENCE, (1994) Vol. 96, No. 1-2, pp. 151-162.  
ISSN: 0168-9452.  
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AN 94:208245 SCISEARCH

L73 ANSWER 53 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Recovery and evaluation of soybean plants transgenic for a Bacillus  
thuringiensis var. kurstaki insecticidal gene;  
immature seed cotyledon culture, somatic embryogenesis and  
transformation with crystal protein gene by microprojectile particle  
bombardment; transgenic plant with insect resistance  
SO In Vitro Plant; (1994) 30, 3, 144-49  
CODEN: 4588P  
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L73 ANSWER 54 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Promoters and their use in the expression of agronomically important  
genes for genetic engineering of indica rice;  
Bacillus thuringiensis cryIA(c) crystal protein gene expression for  
potential insect resistance (conference abstract)  
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CODEN: JCEBD5  
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L73 ANSWER 55 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Expression of *Bacillus thuringiensis* var. *kurstaki* cryIA(c) sequences in  
 transgenic somatic walnut embryos;  
 recombinant crystal protein gene expression in walnut transgenic  
 plant; potential *Cydia pomonella* insect resistance (conference  
 abstract)  
 SO J.Cell.Biochem.; (1994) Suppl.18A, 86  
 CODEN: JCEBD5  
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 AN 1994-13573 BIOTECHDS

L73 ANSWER 56 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Novel *Bacillus thuringiensis* isolates active against biting louse;  
 recombinant crystal protein production; DNA sequence; sheep biting  
 louse *Damiliinia ovis* biological control agent  
 AN 1993-12192 BIOTECHDS  
 PI WO 9314641 5 Aug 1993

L73 ANSWER 57 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI *Lactococcus* host organism;  
 phage T7 RNA-polymerase expression in *Lactococcus lactis*; application  
 in e.g. tetanus toxin C fragment, HIV virus V3  
 loop antigen, *Bacillus thuringiensis* crystal  
 protein production  
 AN 1993-13313 BIOTECHDS  
 PI WO 9317117 2 Sep 1993

L73 ANSWER 58 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Method for controlling acarid pests;  
*Bacillus thuringiensis* biological control agent, recombinant crystal  
 protein delta-endotoxin acaricide and transgenic plant production with  
 insect resistance  
 AN 1994-00909 BIOTECHDS  
 PI US 5262158 16 Nov 1993

L73 ANSWER 59 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Transformed insect resistant plant cell;  
 transgenic plant containing chimeric gene encoding a *Bacillus*  
*thuringiensis truncated crystal*  
 protein and exhibiting insect resistance  
 AN 1993-15221 BIOTECHDS  
 PI US 5254799 19 Oct 1993

L73 ANSWER 60 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Plasmid rAUS135a vector;  
*Bacillus thuringiensis* var. *kurstaki* crystal protein gene cloning and  
 expression by plasmid mobilization in *Methylobacillus flagellatum* for  
 use as an insect biological control agent  
 AN 1994-06269 BIOTECHDS  
 PI SU 1628527 30 Oct 1993

L73 ANSWER 61 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Control of aphid pest;  
*Bacillus thuringiensis* biological control agent, recombinant crystal  
 protein insecticide and transgenic plant production with insect  
 resistance  
 AN 1994-00910 BIOTECHDS  
 PI US 5262159 16 Nov 1993

L73 ANSWER 62 OF 154 MEDLINE DUPLICATE 16  
 TI Insect resistant rice generated by introduction of a modified  
 delta-endotoxin gene of *Bacillus thuringiensis*.  
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Journal code: 8309273. ISSN: 0733-222X.

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L73 ANSWER 63 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Ion channel activity of N-terminal fragments from CryIA(c) delta-endotoxin  
SO Biochemical and Biophysical Research Communications (1993), 196(2), 921-6  
CODEN: BBRC9; ISSN: 0006-291X  
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AN 1993:664450 HCAPLUS  
DN 119:264450

L73 ANSWER 64 OF 154 MEDLINE DUPLICATE 17  
TI In vitro and in vivo proteolysis of the Bacillus thuringiensis subsp. israelensis CryIVD protein by Culex quinquefasciatus larval midgut proteases.  
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Journal code: 9207282. ISSN: 0965-1748.  
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AN 93250868 MEDLINE

L73 ANSWER 65 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Field performance of elite transgenic maize plants expressing an insecticidal protein derived from Bacillus thuringiensis; crystal protein expression in transgenic maize as a means of improving insect resistance to European corn borer (Ostrinia nubilalis)  
SO Bio/Technology; (1993) 11, 2, 194-200  
CODEN: BTCHDA  
AU Koziel M G; Beland G L; Bowman C; Carozzi N B; Crenshaw R; Crossland L  
AN 1993-02753 BIOTECHDS

L73 ANSWER 66 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 18  
TI GROWTH AND SURVIVAL OF HELIOTHIS-VIRESCENS (LEPIDOPTERA, NOCTUIDAE) ON TRANSGENIC COTTON CONTAINING A **TRUNCATED** FORM OF THE DELTA **ENDOTOXIN** GENE FROM **BACILLUS-THURINGIENSIS**  
SO JOURNAL OF ECONOMIC ENTOMOLOGY, (FEB 1993) Vol. 86, No. 1, pp. 181-185.  
ISSN: 0022-0493.  
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AN 93:87279 SCISEARCH

L73 ANSWER 67 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Expression of endotoxin gene from Bacillus thuringiensis with insect baculovirus transfer vector in Escherichia coli  
SO Shengwu Gongcheng Xuebao (1993), 9(2), 181-3  
CODEN: SGXUED; ISSN: 1000-3061  
AU Pei, Zifei; Qi, Yipeng; Huang, Yongxiu; Sheng, Ying  
AN 1993:510336 HCAPLUS  
DN 119:110336

L73 ANSWER 68 OF 154 MEDLINE DUPLICATE 19  
TI Insect-resistant chrysanthemum calluses by introduction of a Bacillus thuringiensis crystal protein gene.  
SO TRANSGENIC RESEARCH, (1993 May) 2 (3) 170-80.  
Journal code: 9209120. ISSN: 0962-8819.  
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AN 93357803 MEDLINE

L73 ANSWER 69 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Transgenic cabbage plants with insect tolerance; transgenic plant construction via **Bacillus thuringiensis truncated cryIA(c) crystal protein** gene expression; application in insect resistance

(conference paper)

SO Curr.Plant Sci.Biotechnol.Agric.; (1993) 156-59  
CODEN: 9999T

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AN 1993-14536 BIOTECHDS

L73 ANSWER 70 OF 154 MEDLINE DUPLICATE 20  
TI Expression of full-length and **truncated** forms of **crystal protein** genes from **Bacillus thuringiensis** subsp. *kurstaki* in a baculovirus and pathogenicity of the recombinant viruses.  
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Journal code: 0014067. ISSN: 0022-2011.  
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AN 94044868 MEDLINE

L73 ANSWER 71 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI Use of *Bacillus thuringiensis* isolates for controlling pests in the family Aphididae  
SO (1993) . US Patent 5,262,159.  
AU Payne, J.M.; Cannon, R.J.C.  
AN 94:31814 LIFESCI

L73 ANSWER 72 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Characterization and expression analysis of the growth factor-inducible immediate-early gene *cyr61*  
SO (1992) 126 pp. Avail.: Univ. Microfilms Int., Order No. DA9238021  
From: Diss. Abstr. Int. B 1993, 53(8), 3911  
AU O'Brien, Timothy Paul  
AN 1994:126810 HCAPLUS  
DN 120:126810

L73 ANSWER 73 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI New *Bacillus thuringiensis* isolate and toxin; new biological control agent and recombinant crystal protein preparation and gene expression in transgenic plant for disease-resistance  
AN 1993-01529 BIOTECHDS  
PI WO 9219106 12 Nov 1992

L73 ANSWER 74 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Method for biological control of maize rootworm larvae and alfalfa weevil; using new *Bacillus thuringiensis* biological control agent expressing crystal protein  
AN 1992-12520 BIOTECHDS  
PI EP 500311 26 Aug 1992

L73 ANSWER 75 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI *Bacillus thuringiensis* crystal protein gene toxin segment; gene cloning and expression for insecticide production or construction of transgenic plant with insect resistance  
AN 1992-11919 BIOTECHDS  
PI AU 9062083 18 Jun 1992

L73 ANSWER 76 OF 154 WPIDS (C) 2003 THOMSON DERWENT  
TI New DNA **fragment** encoding **toxin** portion of **Bacillus thuringiensis** crystal protein peptide - comprises toxin encoding DNA codon(s) encoding peptide having substantial amino acid homology with the peptide encoded by bacillus crystal protein gene.  
PI AU 9062083 A 19920618 (199232)\* 56p C12N015-32

L73 ANSWER 77 OF 154 HCAPLUS COPYRIGHT 2003 ACS

TI Novel *Bacillus thuringiensis* insecticidal crystal protein with a silent activity against coleopteran larvae  
 SO Applied and Environmental Microbiology (1992), 58(8), 2536-42  
 CODEN: AEMIDF; ISSN: 0099-2240  
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 AN 1993:422971 HCAPLUS  
 DN 119:22971

L73 ANSWER 78 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
 TI Cloning and expression of the cryIVD gene of *Bacillus thuringiensis* subsp. *israelensis* in the cyanobacterium *Agmenellum quadruplicatum* PR-6 and its resulting larvicidal activity  
 SO Applied and Environmental Microbiology (1992), 58(5), 1650-5  
 CODEN: AEMIDF; ISSN: 0099-2240  
 AU Murphy, Randy C.; Stevens, S. Edward, Jr.  
 AN 1992:401972 HCAPLUS  
 DN 117:1972

L73 ANSWER 79 OF 154 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 21  
 TI Engineering for apple and walnut resistance to codling moth.  
 SO (1992) pp. 741-749. BRITISH CROP PROTECTION COUNCIL. FARNHAM (UK). Meeting Info.: Brighton Crop Protection Conference: Pests and Diseases--1992. Brighton (UK). 23-26 Nov 1992. ISBN: 0-948404-65-5.  
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 AN 93:101671 LIFESCI

L73 ANSWER 80 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
 TI Expression of the growth factor-inducible immediate early gene *cyr61* correlates with chondrogenesis during mouse embryonic development  
 SO Cell Growth & Differentiation (1992), 3(9), 645-54  
 CODEN: CGDIE7; ISSN: 1044-9523  
 AU O'Brien, Timothy P.; Lau, Lester F.  
 AN 1993:646502 HCAPLUS  
 DN 119:246502

L73 ANSWER 81 OF 154 MEDLINE DUPLICATE 22  
 TI Genomic amplification and expression of delta-endotoxin fragment of *Bacillus thuringiensis*.  
 SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1992 Sep 16) 187 (2) 641-7.  
 Journal code: 0372516. ISSN: 0006-291X.  
 AU Roy P  
 AN 92412101 MEDLINE

L73 ANSWER 82 OF 154 MEDLINE DUPLICATE 23  
 TI Expression of a chimeric CaMV 35S *Bacillus thuringiensis* insecticidal protein gene in transgenic tobacco.  
 SO PLANT MOLECULAR BIOLOGY, (1992 Nov) 20 (3) 539-48.  
 Journal code: 9106343. ISSN: 0167-4412.  
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 AN 93043043 MEDLINE

L73 ANSWER 83 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)  
 TI EXPANSION OF INSECTICIDAL HOST RANGE OF *BACILLUS-THURINGIENSIS* BY INVIVO GENETIC-RECOMBINATION  
 SO BIO-TECHNOLOGY, (APR 1992) Vol. 10, No. 4, pp. 418-421. ISSN: 0733-222X.  
 AU LERECLUS D (Reprint); VALLADE M; CHAUFaux J; ARANTES O; RAMBAUD S  
 AN 92:318393 SCISEARCH

L73 ANSWER 84 OF 154 LIFESCI COPYRIGHT 2003 CSA  
 TI Expansion of insecticidal host range of *Bacillus thuringiensis* by in vivo genetic recombination.  
 SO BIO/TECHNOLOGY., (1992) vol. 10, no. 4, pp. 418-421.  
 AU Lereclus, D.; Vallade, M.; Chaufaux, J.; Arantes, O.; Rambaud, S.  
 AN 92:15421 LIFESCI

L73 ANSWER 85 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
 TI Expression of a hybrid gene for bifunctional insect toxin-glucuronidase protein in transgenic tobacco  
 SO Doklady Akademii Nauk (1992), 325(1), 183-6, 1 plate [Biochem.]  
 CODEN: DAKNEQ; ISSN: 0869-5652  
 AU Shchablenkov, A. A.; Uzbekova, S. V.; Kuz'min, E. V.; Zolotova, T. B.; Eisner, G. I.; Shemyakin, M. F.  
 AN 1993:117706 HCAPLUS  
 DN 118:117706

L73 ANSWER 86 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Synthesis and toxicity of full-length and truncated bacterial CryIVD mosquitocidal proteins expressed in lepidopteran cells using a baculo virus vector;  
*Bacillus thuringiensis* crystal protein gene expression in *Spodoptera frugiperda* cell culture and *Trichoplusia ni* larva for biological control agent development  
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 CODEN: JGVIAIY  
 AU Pang Y; Frutos R; \*Federici B A  
 AN 1992-02683 BIOTECHDS

L73 ANSWER 87 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
 TI Properties and analysis of insecticidal bacterial proteins produced in Lepidopteran cell cultures using baculo virus vectors;  
*Bacillus thuringiensis* full-length, truncated crystal protein expression in *Spodoptera frugiperda*, *Trichoplusia ni* insect cell culture; insecticide and biological control agent (conference abstract)  
 SO In Vitro; (1992) 28, 3, Pt.2, 50A  
 CODEN: ITCSAF  
 AU Federici B A  
 AN 1992-06237 BIOTECHDS

L73 ANSWER 88 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
 TI Heterologous expression of *Bacillus thuringiensis* var. *tenebrionis* toxin gene in *Escherichia coli*.  
 SO Biotechnologia Aplicada, (1992) Vol. 9, No. 1, pp. 31-37.  
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 AN 1993:73727 BIOSIS

L73 ANSWER 89 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
 TI New functional *Bacillus thuringiensis* .delta.-endotoxin hybrid genes obtained by in vivo recombination  
 SO PCT Int. Appl., 64 pp.  
 CODEN: PIXXD2  
 IN Galizzi, Alessandro; Albertini, Alessandra; Caramori, Tiziana; Degraffi, Giuliano; Persic, Lidija  
 AN 1991:402524 HCAPLUS  
 DN 115:2524

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9101087	A1	19910207	WO 1990-EP1145	19900712
	W: AU, BR, JP, SU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
	AU 9061451	A1	19910222	AU 1990-61451	19900712

L73 ANSWER 90 OF 154 WPIDS (C) 2003 THOMSON DERWENT  
 TI Nucleic acid fragments encoding mutant 27 KD delta endotoxins - from *Bacillus thuringiensis* var. *Israelensis*, have improved insecticidal properties, part. against mosquitoes.  
 PI US 875 H 19910101 (199104)\*  
 IN ELLAR, D J; WARD, E S

L73 ANSWER 91 OF 154 MEDLINE  
 TI Promoter function and structure of the growth factor-inducible immediate early gene *cyr61*.  
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 Journal code: 0411011. ISSN: 0305-1048.  
 AU Latinkic B V; O'Brien T P; Lau L F  
 AN 91288203 MEDLINE

L73 ANSWER 92 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
 TI Identification of putative insect brush border membrane-binding molecules specific to *Bacillus thuringiensis* .delta.-endotoxin by protein blot analysis  
 SO Applied and Environmental Microbiology (1991), 57(10), 2816-20  
 CODEN: AEMIDF; ISSN: 0099-2240  
 AU Garczynski, Stephen F.; Crim, Joe W.; Adang, Michael J.  
 AN 1992:100844 HCAPLUS  
 DN 116:100844

L73 ANSWER 93 OF 154 MEDLINE DUPLICATE 24  
 TI The C-terminal domain of the toxic **fragment** of a ***Bacillus thuringiensis* crystal protein** determines receptor binding.  
 SO MOLECULAR MICROBIOLOGY, (1991 Nov) 5 (11) 2799-806.  
 Journal code: 8712028. ISSN: 0950-382X.  
 AU Honee G; Convents D; Van Rie J; Jansens S; Peferoen M; Visser B  
 AN 92140044 MEDLINE

L73 ANSWER 94 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)  
 TI THE C-TERMINAL DOMAIN OF THE TOXIC **FRAGMENT** OF A ***BACILLUS-THURINGIENSIS* CRYSTAL PROTEIN** DETERMINES RECEPTOR-BINDING  
 SO MOLECULAR MICROBIOLOGY, (1991) Vol. 5, No. 11, pp. 2799-2806.  
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 AN 91:662882 SCISEARCH

L73 ANSWER 95 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 25  
 TI EFFECTS OF BIOMASS RANGE INTERACTIONS ON CATCHABILITY OF MIGRATORY DEMERSAL FISH BY MOBILE FISHERIES - AN EXAMPLE OF ATLANTIC COD (*GADUS-MORHUA*)  
 SO CANADIAN JOURNAL OF FISHERIES AND AQUATIC SCIENCES, (1991) Vol. 48, No. 5, pp. 843-848.  
 AU ROSE G A (Reprint); LEGGETT W C  
 AN 91:329058 SCISEARCH

L73 ANSWER 96 OF 154 MEDLINE DUPLICATE 26  
 TI Two structural domains as a general fold of the toxic fragment of the *Bacillus thuringiensis* delta-endotoxins.  
 SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1991 Feb 14) 195 (3) 631-5.  
 Journal code: 0107600. ISSN: 0014-2956.  
 AU Convents D; Cherlet M; Van Damme J; Lasters I; Lauwereys M  
 AN 91153300 MEDLINE

L73 ANSWER 97 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)  
 TI 2 STRUCTURAL DOMAINS AS A GENERAL FOLD OF THE TOXIC FRAGMENT OF THE *BACILLUS-THURINGIENSIS* DELTA-ENDOTOXINS  
 SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1991) Vol. 195, No. 3, pp. 631-635.

AU CONVENTS D (Reprint); CHERLET M; VANDAMME J; LASTERS I; LAUWEREYS M  
AN 91:117385 SCISEARCH

L73 ANSWER 98 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Processing of delta endotoxin from *Bacillus thuringiensis* subsp. *kurstaki*  
HD-1 and HD-73 by immobilized trypsin and chymotrypsin  
SO Applied Entomology and Zoology (1991), 26(4), 485-92  
CODEN: APEZAW; ISSN: 0003-6862  
AU Indrasith, Leslie S.; Ogiwara, Katsutoshi; Minami, Masayoshi; Iwasa,  
Tomoko; Maruyama, Takeshi; Suzuki, Nobukazu; Asano, Shoji; Sakanaka,  
Kazunobu; Hori, Hidetaka  
AN 1992:146118 HCAPLUS  
DN 116:146118

L73 ANSWER 99 OF 154 WPIDS (C) 2003 THOMSON DERWENT  
TI Recombinant DNA encoding ***bacillus thuringiensis***  
endotoxin - useful as insecticide against Lepidoptera, and  
**truncated** chimeric **endotoxin**-producing gene.  
PI WO 9003434 A 19900405 (199017)\*  
RW: AT BE CH DE FR GB IT LU NL SE  
W: AU JP US  
AU 8944016 A 19900418 (199027)  
JP 04500753 W 19920213 (199213) 15p  
AU 635504 B 19930325 (199319) C12N015-32  
EP 555201 A1 19930818 (199333) EN 50p C12N015-32  
R: AT BE CH DE FR GB IT LI LU NL SE  
US 5424409 A 19950613 (199529) 70p C12N015-00  
IN ELY, S; TIPPETT, J M

L73 ANSWER 100 OF 154 MEDLINE DUPLICATE 27  
TI Folding and unfolding of the protoxin from *Bacillus thuringiensis*:  
evidence that the toxic moiety is present in an active conformation.  
SO BIOCHEMISTRY, (1990 Dec 11) 29 (49) 10971-7.  
Journal code: 0370623. ISSN: 0006-2960.  
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AN 91105025 MEDLINE

L73 ANSWER 101 OF 154 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 28  
TI Nucleotide sequence and deduced amino acid sequence of a *cryIA(c)* gene  
variant from *Bacillus thuringiensis*.  
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AU Dardenne, F.; Seurinck, J.; Lambert, B.; Peferoen, M.  
AN 90:55462 LIFESCI

L73 ANSWER 102 OF 154 LIFESCI COPYRIGHT 2003 CSA  
TI Expression of *cyr61*, a growth factor-inducible immediate-early gene.  
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AU O'Brien, T.P.; Yang, G.P.; Sanders, L.; Lau, L.F.  
AN 90:21766 LIFESCI

L73 ANSWER 103 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Expression of *Bacillus thuringiensis* delta-endotoxin in transgenic plants  
of *Nicotiana tabacum*  
SO Doklady Akademii Nauk SSSR (1990), 315(6), 1489-92 [Biochem.]  
CODEN: DANKAS; ISSN: 0002-3264  
AU Bogdarina, I. G.; Rukavtsova, E. B.; Shmatchenko, V. V.; Zinkevich, V. E.;  
Sever, I. S.; Aslanyan, E. M.; Isangalin, F. Sh.; Bur'yanov, Ya. I.; Baev,  
A. A.  
AN 1991:241929 HCAPLUS  
DN 114:241929

L73 ANSWER 104 OF 154 MEDLINE DUPLICATE 29  
TI The *Bacillus thuringiensis* delta-endotoxin. Evidence for a two domain  
structure of the minimal toxic fragment.

SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1990 Jan 25) 265 (3) 1369-75.  
Journal code: 2985121R. ISSN: 0021-9258.  
AU Convents D; Houssier C; Lasters I; Lauwereys M  
AN 90110189 MEDLINE

L73 ANSWER 105 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Insect resistant cotton plants;  
**Bacillus thuringiensis** var. **kurstaki**  
**truncated crystal protein** gene cloning and  
expression in transgenic plant; insect resistance; DNA sequence  
SO Bio/Technology; (1990) 8, 10, 939-43  
CODEN: BTCHDA  
AU Perlak F J; Deaton R W; Armstrong T A; Fuchs R L; Sims S R; Greenplate J  
T  
AN 1990-14748 BIOTECHDS

L73 ANSWER 106 OF 154 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 30  
TI A translation fusion product of two different insecticidal crystal protein  
genes of *Bacillus thuringiensis* exhibits an enlarged insecticidal  
spectrum.  
SO APPL. ENVIRON. MICROBIOL., (1990) vol. 56, no. 3, pp. 823-825.  
AU Honee, G.; Vriezen, W.; Visser, B.  
AN 90:22271 LIFESCI

L73 ANSWER 107 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Recombinant *Bacillus thuringiensis* crystal protein genes and their  
entomocidal host range;  
crystal protein insecticide production; gene cloning, C-terminus  
deletion, and expression in *Escherichia coli* (conference abstract)  
SO J.Cell.Biochem.; (1990) Suppl.14E, 341  
CODEN: JCEBD5  
AU Stiekema W; Visser B; Honee G; Vriezen W  
AN 1990-14109 BIOTECHDS

L73 ANSWER 108 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Toxicity of protease-resistant domains from the delta-endotoxin of  
*Bacillus thuringiensis* subsp. *israelensis* in *Culex quinquefasciatus* and  
*Aedes aegypti* bioassays;  
comparison of chymotrypsin-digested and undigested endotoxin  
SO Appl.Environ.Microbiol.; (1990) 56, 1, 162-66  
CODEN: AEMIDF  
AU Pfannenstiel M A; Cray Jr W C; Couche G A; \*Nickerson K W  
AN 1990-02667 BIOTECHDS

L73 ANSWER 109 OF 154 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 31  
TI Heterologous expression of a mutated toxin gene from *Bacillus*  
*thuringiensis* subsp. *tenebrionis*.  
SO FEMS MICROBIOL. LETT., (1990) vol. 66, no. 1-3, pp. 95-100.  
AU Rhim, S.-L.; Jahn, N.; Schnetter, W.; Geider, K.  
AN 90:3002 LIFESCI

L73 ANSWER 110 OF 154 MEDLINE  
TI Heterologous expression of a mutated toxin gene from *Bacillus*  
*thuringiensis* subsp. *tenebrionis*.  
SO FEMS MICROBIOLOGY LETTERS, (1990 Jan 1) 54 (1-3) 95-9.  
Journal code: 7705721. ISSN: 0378-1097.  
AU Rhim S L; Jahn N; Schnetter W; Geider K  
AN 90215176 MEDLINE

L73 ANSWER 111 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI New *Bacillus thuringiensis* isolates;  
with insecticidal activity against Egyptian alfalfa weevil (*Hypera*  
*brunneipennis*)  
AN 1989-14373 BIOTECHDS

PI US 4849217 18 Jul 1989

L73 ANSWER 112 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Transformation of plant cell with *Bacillus thuringiensis* DNA;  
biological control agent  
AN 1989-05801 BIOTECHDS  
PI WO 8901515 23 Feb 1989

L73 ANSWER 113 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Cloning of *Bacillus thuringiensis* toxin gene;  
for expression of crystal protein; biological control agent for  
beetles of the order Coleoptera  
AN 1989-14987 BIOTECHDS  
PI US 4853331 1 Aug 1989

L73 ANSWER 114 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Hybrid pesticide toxins;  
comprising *Bacillus thuringiensis* var. *kurstaki*  
**crystal protein fragment** linked to  
cytotoxic agent; DNA sequence; vector  
AN 1990-01479 BIOTECHDS  
PI EP 340948 8 Nov 1989

L73 ANSWER 115 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Preparation of pest-resistant transgenic plants  
SO PCT Int. Appl., 56 pp.  
CODEN: PIXXD2  
IN Barton, Kenneth A.; Umbeck, Paul F.  
AN 1990:153046 HCAPLUS  
DN 112:153046

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 8904868	A1	19890601	WO 1988-US4107	19881117
	W: AU, JP				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8928100	A1	19890614	AU 1989-28100	19881117
	CA 1337280	A1	19951010	CA 1988-583542	19881118

L73 ANSWER 116 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Method for improving the efficacy of insect toxins  
SO Eur. Pat. Appl., 38 pp.  
CODEN: EPXXDW  
IN Fuchs, Roy Lee; Kishore, Ganesh Murthy; MacIntosh, Susan Caryl  
AN 1990:193809 HCAPLUS  
DN 112:193809

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 339009	A2	19891025	EP 1989-870047	19890410
	EP 339009	A3	19910116		
	EP 339009	B1	19930811		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AU 8932580	A1	19891012	AU 1989-32580	19890410
	AU 620388	B2	19920220		
	CN 1037924	A	19891213	CN 1989-102063	19890410
	JP 02085204	A2	19900326	JP 1989-90531	19890410
	JP 07014845	B4	19950222		
	ZA 8902600	A	19900926	ZA 1989-2600	19890410
	AT 92717	E	19930815	AT 1989-870047	19890410
	ES 2058599	T3	19941101	ES 1989-870047	19890410
	US 5250515	A	19931005	US 1991-812890	19911220

L73 ANSWER 117 OF 154 WPIDS (C) 2003 THOMSON DERWENT  
TI Microbial delivery system, esp. for delivery of nematocides - comprising  
treated non-proliferative microbial cells, contg. active protein produced



by homologous gene.

PI US 4861595 A 19890829 (198944)\* 6p  
IN BARNES, A C; EDWARDS, D L

L73 ANSWER 118 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
TI Changes in microvilli and Golgi-associated membranes of lepidopteran cells  
induced by an insecticidally active bacterial .delta.-endotoxin  
SO Journal of Cell Science (1989), 93(2), 337-47  
CODEN: JNCSAI; ISSN: 0021-9533  
AU Lane, Nancy J.; Harrison, J. B.; Lee, W. M.  
AN 1989:473060 HCAPLUS  
DN 111:73060

L73 ANSWER 119 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Cloning and expression of Bacillus thuringiensis insecticidal proteins in  
new hosts: applications for developing countries;  
crystal protein truncated gene expression in tobacco transgenic plant  
for insect resistance, and in Synechocystis; biological control agent  
(conference paper)  
SO Isr.J.Entomol.; (1989) 23, 185-88  
CODEN: IJENB9  
AU Peferoen M; Hoefte H; Chungjatupornchai W  
AN 1991-07502 BIOTECHDS

L73 ANSWER 120 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 33  
TI DELINEATION OF THE **TOXIN** CODING **FRAGMENTS** AND AN  
INSECT-SPECIFICITY REGION OF A DUAL TOXICITY **BACILLUS-**  
**THURINGIENSIS** CRYSTAL PROTEIN GENE  
SO FEMS MICROBIOLOGY LETTERS, (1989) Vol. 58, No. 2-3, pp. 157-163.  
AU HAIDER M Z; SMITH G P; ELLAR D J (Reprint)  
AN 89:234247 SCISEARCH

L73 ANSWER 121 OF 154 MEDLINE  
TI Delineation of the **toxin** coding **fragments** and an  
insect-specificity region of a dual toxicity **Bacillus**  
**thuringiensis** crystal protein gene.  
SO FEMS MICROBIOLOGY LETTERS, (1989 Apr) 49 (2-3) 157-63.  
Journal code: 7705721. ISSN: 0378-1097.  
AU Haider M Z; Smith G P; Ellar D J  
AN 89306530 MEDLINE

L73 ANSWER 122 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI Facile preparation and characterization of the toxin from Bacillus  
thuringiensis var. kurstaki;  
biological control agent crystal protein purification  
SO Biochem.J.; (1989) 260, 1, 87-91  
CODEN: BIJOAK  
AU Bietlot H; Carey P R; Choma C; \*Kaplan H; Lessard T; Pozsgay M  
AN 1989-08242 BIOTECHDS

L73 ANSWER 123 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI New gene encoding delta-endotoxin of Bacillus thuringiensis;  
expression of vector plasmid in Bacillus megaterium and Escherichia  
coli  
AN 1989-01982 BIOTECHDS  
PI WO 8808880 17 Nov 1988

L73 ANSWER 124 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
TI A cloned DNA **fragment** containing two **crystal**  
**protein** genes of **Bacillus thuringiensis**;  
application as biological control agent (conference abstract)  
SO Genome; (1988) 30, Suppl.1, 420  
CODEN: GENOE3  
AU Yong-Yan Bai; Ti Tang; Jian-Min Xie; Xiang-Ling Cao; Hang Wang

AN 1989-03305 BIOTECHDS

L73 ANSWER 125 OF 154 HCAPLUS COPYRIGHT 2003 ACS

TI The mosquito larvicidal activity of 130 kDa delta-endotoxin of *Bacillus thuringiensis* var. *israelensis* resides in the 72 kDa amino-terminal fragment

SO Biochemical and Biophysical Research Communications (1988), 153(1), 294-300

CODEN: BBRC9; ISSN: 0006-291X

AU Pao-Intara, Manu; Angsuthanasombat, Chanan; Panyim, Sakol

AN 1988:450226 HCAPLUS

DN 109:50226

L73 ANSWER 126 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

TI Toxic trypsin digest fragment from the *Bacillus thuringiensis* parasporal protein;

biological control agent

SO Appl. Environ. Microbiol.; (1987) 53, 2, 416-21

CODEN: AEMIDF

AU Aronson J N; Arvidson H C

AN 1987-04882 BIOTECHDS

L73 ANSWER 127 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

TI Toxin-encoding DNA fragment;

producing *Bacillus thuringiensis* crystal protein peptide; an

insecticide and production of recombinant biological control agent

AN 1986-05892 BIOTECHDS

PI WO 8601536 13 Mar 1986

L73 ANSWER 128 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

TI Cells containing intracellular pesticide polypeptide;

e.g. *Bacillus thuringiensis* crystal toxin gene expression in fungus or bacterium host

AN 1986-12023 BIOTECHDS

PI EP 192319 27 Aug 1986

L73 ANSWER 129 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

TI New DNA **fragment** encoding insecticide **crystal**

**protein** from ***Bacillus thuringiensis***;

plasmids for transformation of *Escherichia coli*

AN 1986-09580 BIOTECHDS

PI EP 186379 2 Jul 1986

L73 ANSWER 130 OF 154 HCAPLUS COPYRIGHT 2003 ACS

TI Insertion of the *Bacillus thuringiensis* crystal protein gene into plant-colonizing microorganisms and their use

SO Eur. Pat. Appl., 42 pp.

CODEN: EPXXDW

IN Watrud, Lidia Sicari; Perlak, Frederick Joseph

AN 1986:621041 HCAPLUS

DN 105:221041

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 185005	A2	19860618	EP 1985-870174	19851209
EP 185005	A3	19880511		
EP 185005	B1	19920122		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AU 8551008	A1	19860619	AU 1985-51008	19851209
AU 588557	B2	19890921		
JP 61141882	A2	19860628	JP 1985-276667	19851209
JP 07004232	B4	19950125		
ZA 8509400	A	19861029	ZA 1985-9400	19851209
AT 71981	E	19920215	AT 1985-870174	19851209

L73 ANSWER 131 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
 TI Mode of action of bipyramidal .delta.-endotoxin of *Bacillus thuringiensis* subsp. *kurstaki* HD-1  
 SO Applied and Environmental Microbiology (1986), 51(3), 630-3  
 CODEN: AEMIDF; ISSN: 0099-2240  
 AU Tojo, Akihiko  
 AN 1986:143601 HCAPLUS  
 DN 104:143601

L73 ANSWER 132 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
 TI Effects of the three proteases from gut juice of the silkworm, *Bombyx mori*, on the two morphologically different inclusions of .delta.-endotoxin produced by *Bacillus thuringiensis* *kurstaki* HD-1 strain  
 SO Agricultural and Biological Chemistry (1986), 50(3), 575-80  
 CODEN: ABCHA6; ISSN: 0002-1369  
 AU Tojo, Akihiko; Samasanti, Wiwit; Yoshida, Norio; Aizawa, Keio  
 AN 1986:182300 HCAPLUS  
 DN 104:182300

L73 ANSWER 133 OF 154 MEDLINE DUPLICATE 36  
 TI Purification and characterization of the active **fragment** from ***Bacillus thuringiensis* delta-toxin**.  
 SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1986 Nov 26) 141 (1) 106-11.  
 Journal code: 0372516. ISSN: 0006-291X.  
 AU Tyski S; Fujii Y; Lai C Y  
 AN 87100097 MEDLINE

L73 ANSWER 134 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)  
 TI PURIFICATION AND CHARACTERIZATION OF THE ACTIVE **FRAGMENT** FROM ***BACILLUS-THURINGIENSIS* DELTA-TOXIN**  
 SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1986) Vol. 141, No. 1, pp. 106-111.  
 AU TYSKI S; FUJII Y; LAI C Y (Reprint)  
 AN 86:694593 SCISEARCH

L73 ANSWER 135 OF 154 LIFESCI COPYRIGHT 2003 CSA  
 TI Mechanism of action of *Bacillus thuringiensis* insecticidal delta-endotoxin on insect cells in vitro.  
 SO AGRIC. BIOL. CHEM., (1985) vol. 49, no. 5, pp. 1461-1468.  
 AU Himeno, M.; Koyama, N.; Funato, T.; Komano, T.  
 AN 85:21849 LIFESCI

L73 ANSWER 136 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 37  
 TI ELISA FOR THE TOXIC **FRAGMENT** OF BIPYRAMIDAL DELTA **ENDOTOXIN** PRODUCED BY ***BACILLUS-THURINGIENSIS* -KURSTAKI STRAIN HD-1**.  
 SO J SERIC SCI JPN, (1985) 54 (4), 304-309.  
 CODEN: NISZAQ. ISSN: 0037-2455.  
 AU TOJO A  
 AN 1986:111863 BIOSIS

L73 ANSWER 137 OF 154 MEDLINE DUPLICATE 38  
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 SO GENE, (1985) 36 (3) 289-300.  
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L73 ANSWER 138 OF 154 MEDLINE DUPLICATE 39

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L73 ANSWER 139 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)  
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L73 ANSWER 143 OF 154 LIFESCI COPYRIGHT 2003 CSA  
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L73 ANSWER 146 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

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L73 ANSWER 152 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
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L73 ANSWER 154 OF 154 HCAPLUS COPYRIGHT 2003 ACS

TI Leather

AN 1934:2650 HCAPLUS

DN 28:2650

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L73 ANSWER 21 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AB Different *Bacillus thuringiensis* crystal protein CryIA(a) toxin regions were displayed on phagemid surfaces using the phage display vector phagemid pHEN1, to identify toxin sequences suitable for mutagenesis and selection. 4 Fragments corresponding to almost the entire activated toxin, the N-terminal domain, domain-II and the 2nd loop in domain-II were amplified by polymerase chain reaction and cloned in *Escherichia coli* DH5-alpha-F' as gene-III fusion proteins. CryIA(a) domain-II, in which the receptor-binding activity was located, was efficiently displayed and secreted as a soluble protein into the periplasm of *Escherichia coli*. The toxin fragments were expressed as glutathione-transferase (EC-2.5.1.18) fusion proteins from plasmid pGEX, and were purified and used to generate rabbit antisera. This method should be useful in modification of toxin specificity, and selection of toxin proteins with novel or expanded host ranges. (18 ref)

L73 ANSWER 27 OF 154 HCAPLUS COPYRIGHT 2003 ACS

AB Binding of different *Bacillus thuringiensis* insecticidal crystal proteins (ICPs) to the midgut epithelium of *Spodoptera frugiperda* larvae was characterized by binding expts. with midgut tissue sections and isolated brush border membrane vesicles. The results show that ICPs interact with the microvilli of epithelial cells of *S. frugiperda* in two different ways. The first is typical of highly toxic proteins (like CryIC and CryID); this interaction is saturable and specific. In contrast, some nontoxic proteins (like CryIAb) interact nonspecifically with the microvilli, since the binding of this toxin is not affected by the presence of high concns. of homologous competitor. The CryIC toxin binds to two brush border proteins of 40 and 44 kDa and the CryIAb toxin binds to a single protein of 150 kDa. Immunol. detection of ingested *B. thuringiensis* ICPs on gut sections of *S. frugiperda* larvae revealed that CryIC and CryID toxins bound along the epithelial brush border microvilli membrane. Binding of the nontoxic protein CryIAb was also obsd. in the epithelial brush border membrane of fed larvae, but it was extremely weak, implying that this type of interaction occurs also in vivo although it is not related to toxicity.

L73 ANSWER 35 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AB The following are claimed: (1) *Bacillus thuringiensis* hybrid toxin (I) composed as its C-terminus, domain III of a 1st cry protein and as its N-terminus, the N-terminal region of a different cry protein; (2) hybrid toxins (Ia) composed of (I) and toxins at least 85% similar or (Ia) with similar insecticide activity or receptor binding properties; (3) pure proteins at least 90% identical to (I) and (Ia); (4) recombinant DNA sequences encoding either (I) or (Ia); (5) vectors containing (4); (6) plants or microorganisms able to express (4); (7) transgenic plants (or their progeny or seeds) containing (4); and (8) proteins produced by expression of (4). The recombinant DNA preferably contains nucleotides 1-1860 or 1-1881 of specified 3558 and 3579 bp DNA sequences. (I) may

also contain a protein with herbicide resistance, plant growth regulating, fungicide, antibiotic, virucide and/or nematocide activities. (I) may be modified to remove mRNA instability motifs or polyA sequences, and/or to insert organism-preferred codons. The new toxins and microorganisms transformed to produce them may be used as insecticides. (65pp)

L73 ANSWER 38 OF 154 HCAPLUS COPYRIGHT 2003 ACS

AB A new isolate of *Bacillus thuringiensis* serovar japonensis strain Buibui, which was specific to scarab beetles (M. Ohba et al., Lett. Appl. Microbiol. 14:54, 1992), was shown to have a 130 kDa insecticidal crystal protein (ICP) (H. Hori et al., J. Appl. Bacteriol. 76:307, 1994). *Cla*I restriction enzyme fragments of total cell DNA of the isolate were cloned into *E. coli* (Sato et al., Curr. Microbiol. 28:15, 1994). Whole 3480-bp nucleotide sequence of the gene encoding 130-kDa ICP was detd., and the mol. wt. of the ICP was estd. to be 130,424. The strongly conserved five blocks that occur in almost all ICP genes of *B. thuringiensis* were detected in the ORF with the same order and almost the same intervals as elsewhere. The amino acid sequence homologies of the whole ICP or N-terminus half portion to that of the CryIIIA, B, C, D, and CryV were about 35%.

L73 ANSWER 45 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AB Cabbage (*Brassica oleracea capitata*) transgenic plants were constructed by *Agrobacterium tumefaciens* pGV2260-mediated ***Bacillus thuringiensis* HD-2 truncated crystal protein** cryIA(B) and cryIB gene transfer. A truncated cryIB gene was cloned by polymerase chain reaction (PCR) and amplified DNA fragments were isolated and ligated into *EcoRV*-digested plasmid pBluescript SK. The 5' end of the gene was further introduced as a synthetic linker encoding the first 9 amino acids of the cryIB gene. For recombinant expression in *Escherichia coli*, the mcryIB gene was fused to a beta-galactosidase (EC-3.2.1.23) reporter gene and the fusion protein was detected by immunoblotting. Plant transformation constructs were made by cloning the mcryIB gene in plasmid pBPF-omega-7. The expression cassettes were introduced into vector plasmid pDE1001 and plasmid pDK2. Single and combinatorial genetic constructions were called plasmid pDEK-B2, plasmid pDK-B3 and plasmid pDEK-B4. The 1.95 kb DNA fragment amplified from HD-2 DNA was identified as the 5' end of the cryIB gene by Southern blot hybridization and sequencing. Such a method may be used for insect resistance. (2 ref)

L73 ANSWER 46 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AB The following are claimed: (1) a method for controlling wireworms by contacting the wireworms with a wireworm-controlling amount of *Bacillus thuringiensis* PS211B2 (NRRL B-18921), **PS86A1** (NRRL B-18400) and PS80JJ1 (NRRL B-18679); (2) a specified DNA sequence (I) encoding a *B. thuringiensis* toxin active against wireworms, obtained from PS211B2, **PS86A1** and PS80JJ1; (3) a toxin encoded by (I); (4) a plant cell transformed by (I); and (4) a microbe transformed by (I). (I) comprises DNA from PS80JJ1 having a fragment selected from a *Hind*III fragment of 9.5 kb and an *EcoRI* fragment of 1.8 kb, which hybridizes with a 700-800 bp DNA sequence produced by polymerase chain amplification of PS80JJ1 DNA utilizing specified sequences as a forward primer. The *B. thuringiensis* strains or crystal proteins are useful for controlling wireworms which can cause damage to crops. Plants with disease-resistance to wireworms can be constructed using the polynucleotide encoding the toxin. (37pp)

L73 ANSWER 54 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI

AB A protoplast transformation and regeneration system was developed for indica rice (*Oryza sativa* cv. IR43). Protoplasts were co-transformed with CaMV 35S promoter hph chimeric gene conferring resistance to hygromycin and gusA gene driven by either wheat (*Triticum aestivum*) rbcS or wheat cab promoter in separate plasmid constructs. Over 60% of

independent hygromycin selected callus clones were regenerated into plants. Southern analysis confirmed the stable integration of the gusA coding sequence into the plant genome. Histochemical analysis showed that the wheat cab promoter conferred strong cell type specific expression of the gusA reporter gene in transgenic rice plants. Such promoters should be useful for insect resistance studies (particularly against yellow stem borer) in rice. For such insect resistance studies, synthetic and **truncated cryIA(c) crystal protein** genes of **Bacillus thuringiensis** were introduced into protoplasts and several plants were obtained through selection. Expression of the cryIA(b) gene in transgenic rice either driven by the CaMV 35S promoter or by rbcS and cab promoters was presented. (0 ref)

L73 ANSWER 64 OF 154 MEDLINE DUPLICATE 17  
 AB Proteases with trypsin-, chymotrypsin- and thermolysin-like specificity were detected in *Culex quinquefasciatus* larval midguts. Their activities were monitored by N-terminal amino acid sequence analysis of the **Bacillus thuringiensis** subsp. *israelensis* CryIVD toxin proteolytic **fragments**. These proteases are located in the larval midgut and in different fractions obtained during the preparation of brush border membrane vesicles. The activity of the midgut proteases increased with an increase in pH. Both the chymotrypsin- and thermolysin-like activities are involved in the processing of solubilized CryIVD toxin, whereas an additional trypsin-like protease is necessary for the CryIVD parasporal inclusion processing. The solubilized CryIVD toxin was first cleaved between Thr347 and Phe348 and between Phe348 and Tyr349, generating a 40-kDa N-terminal fragment and a 32.5-kDa C-terminal fragment. The C-terminal domain was resistant to further processing, with only a small amount of a 31-kDa product appearing due to the action of a thermolysin-like protease. However, the N-terminal domain was very unstable, and was further degraded to about 30 kDa. Unlike the solubilized CryIVD toxin, the processing of the CryIVD parasporal inclusion was very slow at neutral pH. Three protease-resistant products were detected at pHs higher than 9.5 with an overnight incubation at 37 degrees C. The 30- and 28.5-kDa C-terminal peptides are proteolytic products of trypsin- and chymotrypsin-like proteases, respectively; while the 28-kDa N-terminal peptide has 27 amino acids deleted from the N-terminal end by a thermolysin-like protease.

L73 ANSWER 70 OF 154 MEDLINE DUPLICATE 20  
 AB Full-length and **truncated** forms of the **crystal protein** gene cryIA(b) derived from **Bacillus thuringiensis** subsp. *kurstaki* HD-1 and full-length cryIA(c) gene of *B. thuringiensis* subsp. *kurstaki* HD-73 were introduced into the genome of the baculovirus *Autographa californica* nuclear polyhedrosis virus, in place of the polyhedrin gene. All gene constructs were expressed at high levels in insect cells and insects upon infection with the recombinant viruses. The protein products were shown to be biologically and immunologically similar to the natural crystal protein. The expressed proteins formed crystals (in insects) up to 10 times bigger (in length) than their bacterial counterpart. The LT50 values for recombinant viruses were not significantly shorter than wild-type virus.

L73 ANSWER 76 OF 154 WPIDS (C) 2003 THOMSON DERWENT  
 AU 9062083 A UPAB: 19941216  
 A novel DNA **fragment** (I) encodes a **toxin** protein of a **Bacillus thuringiensis** (B.t) crystal protein peptide, where (I) comprises toxin-encoding DNA codons encoding a peptide having substantial amino acid (AA) homology with the peptide encoded by the amino-terminal 55-80% of a B.t. crystal protein gene.  
 Also claimed are: (1) transcriptional and translational prods. of (I); (2) a method for producing (I); (3) a plant transformed by a vector contg. (I); and (4) pure B.t. crystal protein toxin peptide.



USE/ADVANTAGE - The toxin-encoding segment of B.t. crystal protein gene is expressible in recombinant host organisms and is toxic to lepidopteran insects. Since the toxin peptide is approx. half the size of the B.t. crystal protein protoxin peptide, standard insecticidal prepsns. contg. the protoxin crystals can be made to be twice as effective per given dose by utilising the smaller toxin fragment instead of the larger protoxin polypeptide.

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- L73 ANSWER 93 OF 154 MEDLINE DUPLICATE 24  
AB The insecticidal crystal proteins of *Bacillus thuringiensis* show a high degree of specificity. In vitro binding studies with several crystal proteins demonstrated a correlation between toxicity and binding to receptors of larval midgut epithelial cells. In order to study the domain-function relationships of the toxic fragment, hybrid crystal proteins based on CryIA(b) and CryIC were constructed. Two out of 11 hybrid proteins constructed exhibited insecticidal activity. Both displayed an insecticidal spectrum similar to that of the parental crystal protein from which the C-terminal part of the toxic fragment originated. In addition, in vitro binding studies directly demonstrated the involvement of the C-terminal part of the toxic fragment in receptor binding. These results demonstrate that the C-terminal part of the toxic fragment determines specific receptor binding, which in turn determines, to a large extent, the insect specificity.
- L73 ANSWER 96 OF 154 MEDLINE DUPLICATE 26  
AB The unfolding by guanidine hydrochloride of the toxic **fragment** of a ***Bacillus thuringiensis* toxin** belonging to the CryIC class reveals a two-step denaturation under both acid and alkaline conditions. This demonstrates the existence of two structural domains as building blocks for this toxin. Protease digests performed on a CryIA(b) and CryIC *B. thuringiensis* toxin, under native and partially denatured conditions, confirm this conclusion. Whereas the native CryIC toxin is completely protease resistant, the CryIA(b) toxin, earlier described as consisting of two structural domains [Convents, D., Houssier, C., Lasters, I. & Lauwereys, M. (1990) *J. Biol. Chem.* 265, 1369-1375], is cleaved by three proteases, resulting in at least two common fragments. This suggests that this toxin is built up of two globular units linked by a protease-susceptible linker. The detection of a stable intermediate along the denaturation curve allows us to study and compare the consecutive unfolding of the structural domains for both toxins. By addition of a protease, under conditions where such an unfolding intermediate exists, a single denaturation phase can be assigned to a specific part of the protein. These experiments lead to the conclusion that the domain whose stability is highly dependent on pH corresponds to the N-terminal half of both toxins.
- L73 ANSWER 98 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
AB Insecticidal crystal proteins (delta-endotoxins, ICPs) from *Bacillus thuringiensis* kurstaki HD-73 and HD-1 were digested by trypsin and chymotrypsin that were immobilized onto CNBr-Sepharose 4B. In a six-h digestion, both enzymes generated proteolytic resistant cores having 65 kDa mol. size from both ICPs. The ICP from HD-73 generated two other higher mol. intermediates, i.e. 95 and 80 kDa fragments, by the trypsin treatment. This suggested that the ICP of HD-73 might have three sites susceptible to trypsin. ICP from HD-1, however, was more quickly digested by both enzymes and the intermediate pattern in SDS-PAGE was completely different from that of the ICP from HD-73, suggesting that the main protein of ICP from HD-73, a product of cryIA(c) gene, contains significantly fewer HD-1 crystals. N-terminus amino acid residue of the resistant core derived from HD-73 was the same as the sequence starting from the 29th residue in the cryIA gene product, 130 kDa protein. The core generated by both enzymes from HD-1 and HD-73 showed insecticidal

activity against the diamondback moth, *Pleutella xylostella*, the smaller tea tortrix, *Adoxophyes* sp., and the common cutworm, *Spodoptera litura*.

- L73 ANSWER 104 OF 154 MEDLINE DUPLICATE 29  
AB The conformational characteristics of the minimal toxic **fragment** of the delta-**endotoxin** from **Bacillus thuringiensis** berliner 1715 were examined by fluorescence and circular dichroism spectroscopy. This insecticidal protein, specifically toxic to lepidopteran species, was found to consist of two structural domains. Experimental evidence for this conclusion was provided by biphasic guanidine hydrochloride unfolding curves at different pH values and electrophoretic patterns of protease digests. Two stable fragments of comparable molecular weight were obtained using four different broad specificity proteolytic enzymes. A secondary structure model was constructed using seven *B. thuringiensis* toxin sequences. These toxins were selected on the basis of their limited sequence homology and represent all known insecticidal specificities. Despite this divergence, a consensus secondary structure pattern was obtained, confirming the structural homology among the toxins. The N-terminal halves of all toxins are predicted to be relatively rich in alpha-helix structure and the C-terminal parts to contain alternating beta-strand and coil structures. The latter seems characteristic for a beta-sheet conformation. Comparing this model to the unfolding data obtained by circular dichroism, whose far UV signal gives a measure of the alpha-helix content, allowed us to delineate the structural domains into the primary structure.
- L73 ANSWER 108 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
AB The toxicity and lectin-binding abilities of protease-resistant domains of the mosquitocidal delta-endotoxin from **Bacillus thuringiensis** subsp. *israelensis* were examined. The **endotoxin** was **digested** with chymotrypsin (EC-3.4.21.1) to yield protease-resistant domains. HPLC was used to separate the domains from smaller protease digestion products. Once purified, the domain no longer bound wheat germ agglutinin, which binds N-acetylglucosamine (GlcNAc) and GlcNAc oligomers. Digested toxin was as toxic as undigested toxin for *Culex quinquefasciatus*. Solubilized toxin at 62 ng/ml killed 50% of the larvae in 24 hr, while digested toxin required 79 ng/ml. However, the toxicity of chymotrypsin-digested endotoxin for *Aedes aegypti* was reduced 5-fold; 50% lethal concentrations for the larvae increased from 80 to 400 ng/ml. A model is presented in which GlcNAc-containing oligomers are required for toxicity for *A. aegypti* larvae but not *C. quinquefasciatus* larvae. *B. thuringiensis* and *Bacillus sphaericus* are the most important bacterial pathogens of mosquitoes. Extending the *B. sphaericus* host range to include *A. aegypti* mosquitoes is a possibility. (27 ref)
- L73 ANSWER 116 OF 154 HCAPLUS COPYRIGHT 2003 ACS  
AB The insecticidal efficacy of *Bacillus thuringiensis* toxin can be improved by co-administering an effective amt. of a trypsin inhibitor. Thus, the activity of *B. thuringiensis* kurstaki HD-73 toxin (0.5-20 .mu.g/mL) against tobacco budworm was potentiated from 1.5 to 8-fold by supplementing the toxin with soybean trypsin inhibitor [Kunitz (0.5-50 mg/mL); Bowman-Birk (0.15-7.5 mg/mL)]. The potentiation of HD-73 depended on the source of trypsin inhibitor; soybean Kunitz increased the activity by 3.9-fold, as compared to 1.8-fold for trypsin inhibitor from cowpea.
- L73 ANSWER 120 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 33
- L73 ANSWER 126 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI  
AB Enzymatic digestion in vitro of the biological control agent *Bacillus thuringiensis* protoxin presumably releases and activates the toxin in a manner analogous to that which occurs when a *B. thuringiensis* sporulated fermentation preparation passes through the midgut of a lepidopteran larva. Therefore, a sporulated culture of *B. thuringiensis* subsp.

kurstaki (serotype 3a3b) HD-263 was treated with trypsin (EC-3.4.21.4) to release an activated toxin soluble in bicarbonate buffer. A 63-kDal protein, toxic to cabbage looper larvae (*Trichoplusia ni*) and to lepidopteran cells in culture, was purified to homogeneity from this trypsin digest. The larvicide, a glycoprotein containing 5% carbohydrate (wt/wt), was purified from the soluble *B. thuringiensis* trypsin digest by using ammonium sulfate precipitation, anion-exchange chromatography, and hydrophobic-interaction chromatography. Its amino acid composition was high in nonpolar residues and unusually low in lysine and histidine. Partial characterization of the toxin indicated that it corresponds well with reported sequences deduced from cloned genes. (33 ref)

L73 ANSWER 137 OF 154 MEDLINE DUPLICATE 38  
 AB *Bacillus thuringiensis* subsp. *kurstaki* HD-73 produces a crystal protein which is lethal to many lepidopteran larvae. The gene encoding this crystal protein has been isolated from a 75-kb plasmid and engineered into a recombinant *Escherichia coli* plasmid for analysis. The complete nucleotide sequences of the coding region and 387-bp 5' and 376-bp 3' to the coding region have been determined. The 3537-bp of the coding region specify a protein of Mr 133 330. The full-length gene and several 3'-truncated derivatives of the gene were examined in both *E. coli* and in an *E. coli* minicell-expression system to determine if the carboxy end of the protein is essential for toxicity. The results presented here provide the primary structure of the crystal protein gene and show that the N-terminal 68-kDal peptide is toxic, but at a lower level than the full-length gene product.

L73 ANSWER 140 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)DUPLICATE 40

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